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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/663,934
Filing Date: September 16, 2003
Appellant(s): PRASAD, RAVI

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GROUP 1700

Cathy Kodroff
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 12/16/05 appealing from the Office action
mailed 04/19/05.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

B. Claims 10, 13-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hubbard (US 5,882,798) in view of Adur (US 4,957,968) and Krueger (US 4,552,714), as evidenced by Alger (Polymer Science Dictionary, 2nd edition).

(i). Regarding claims 10, 23-24, Hubbard teaches a coated polymeric article comprising a polysilicate coating (column 4, lines 20-30) on a selected polyolefin layer (particularly polypropylene substrate) (column 4, lines 34-44), and a polymeric layer (primer, column 4, lines 53-61) between the selected polyolefin layer (polypropylene substrate) and the coating, for the purpose of providing adherence between the polysilicate coating and the polyolefin layer (suitable wetting of the polysilicate coating on the polyolefin layer, column 4, lines 53-61). Thus Hubbard teaches a coated polymeric article comprising (a) a polymeric substrate consisting of a first outer surface of a polymeric (primer) layer and a second outer surface of a selected polyolefin layer

(polypropylene), and (b) a polysilicate coating on the primer layer. The polymeric article can be a polymeric film (column 4, lines 40-45).

Hubbard fails to teach that the first outer surface of the polymeric (primer) layer is the first outer surface of a maleic anhydride modified polyolefin layer.

However, Adur teaches that surfaces of polyolefins such as polypropylene require a proper primer to adhere to glass surfaces, and has a composition comprising a polyolefin, which is adherent to glass and polyolefins (column 1, lines 5-20). Adur provides commercially available polypropylene grafted with maleic anhydride as one example (column 4, lines 1-12). Glass is polysilicate, as evidenced by Alger.

Alger teaches that silicate glasses are also known as polysilicates (silicate polymer section, pp 520-521).

Thus Adur, as evidenced by Alger, teaches a second surface of a selected polyolefin (polypropylene) layer primed with the first surface of a maleic anhydride modified polyolefin (polypropylene) layer for the purpose of providing adherence to a polysilicate (glass) surface.

Both Adur and Hubbard address the common problem of providing suitable adherence between a polyolefin layer and a polysilicate layer.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used the maleic anhydride modified polyolefin layer of Adur as the first outer surface (primer) layer of Hubbard, in order to obtain a polysilicate coated polyolefin article with good adhesion of the polysilicate coating to the polyolefin substrate, as taught by Adur.

Hubbard in view of Adur, as evidenced by Alger, fails to teach that the polymeric substrate consisting of a first outer surface of maleic anhydride modified polyolefin layer and a second outer surface of a selected polyolefin layer, is coextruded.

However, Krueger teaches that a layer of polyolefin (polypropylene) is coextruded with a layer of maleic anhydride modified polyolefin (polypropylene), wherein the maleic anhydride modified polyolefin is used as an adhesive layer (column 1, lines 55-60). Krueger demonstrates that coextrusion provides a one-step process in the formation of the maleic anhydride modified polyolefin/polyolefin substrate, wherein the maleic anhydride modified polyolefin layer functions as a primer a.k.a adhesive layer.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have coextruded the polymeric substrate of Hubbard in view of Adur, as evidenced by Alger, consisting of a first outer surface of the maleic anhydride modified polyolefin layer and a second outer surface of the selected polyolefin layer, in order to provide the bilayer polymeric substrate in one step, as taught by Krueger.

Although Hubbard in view of Adur and Krueger, as evidenced by Alger, fails to teach the oxygen transmission rate of the article, where the claimed and prior art products are identical or substantially identical in structure and composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established and the claimed properties are presumed to be inherent. See MPEP 2112.01[R-2]. In the instant case, the polysilicate

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coated, coextruded maleic anhydride modified polyolefin primer/polyolefin substrate of Hubbard in view of Adur and Krueger, as evidenced by Alger, is expected to have the claimed oxygen transmission rate within the range of 3 to 15 cc/m²/day, not only by virtue of the same chemical composition, but also by virtue of the laminate structure, and process of making.

Regarding claim 13, Hubbard teaches that bottles are much thicker than films, typically 14 mil in wall thickness (column 16, lines 1-5), meaning that higher substrate thicknesses provide more structural support for the purpose of providing free-standing articles such as bottles. Therefore, although Hubbard fails to teach the claimed thickness range of from about 20 to about 50 mil, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a substrate thickness within the range of 20 to about 50 mil, in order to provide the desired structural support for the article, utilizing the higher substrate thickness, as suggested by Hubbard.

Regarding claims 14-15, Hubbard teaches that the article can be a polymer film (column 2, line 10), which is biaxially oriented (column 17, lines 30-35).

Regarding claim 16, Hubbard teaches that the substrate can have a thickness of 1.2 mil (column 8, lines 60-65), which is within the claimed range of between about 0.5 to 2 mil prior to coating.

Regarding claims 17, 22, Hubbard teaches that the article can be a bottle, jar, lidlock (lidstock) or blister pack (column 4, lines 45-50).

Regarding claim 18, Hubbard teaches that the selected polyolefin is polypropylene (column 17, lines 30-35).

Regarding claims 19, 25, Hubbard teaches that the polysilicate coating on a thin film has the claimed thickness of between 200 to 500 nm (column 4, lines 7-8), wherein 500 nm is 0.5 μm , and that the thickness can also be adjusted by one of ordinary skill in the art to go up to about 1.0 μm (1000 nm, column 4, lines 10-12), thus meeting the claimed range of thickness from about 0.5 μm .

Regarding claim 20, Hubbard teaches that the polysilicate coating comprises a lithium polysilicate (column 3, lines 30-35).

Regarding claims 21, 26, Hubbard teaches that the polysilicate coating comprises a lithium-potassium copolysilicate (column 4, lines 20-25).

C. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hubbard in view of Adur and Krueger, as evidenced by Alger, as applied to claims 10, 13-26 above, and further in view of Jones (US 3,442,686).

Hubbard in view of Adur and Krueger, as evidenced by Alger, teaches a coated article comprising: (a) a coextruded polymeric substrate consisting of a first outer surface of a maleic anhydride modified polyolefin layer and a second outer surface of a selected polyolefin layer; and (b) a polysilicate coating on the maleic anhydride modified layer, as discussed above. Hubbard in view of Adur and Krueger, as evidenced by Alger, fails to teach a topcoat of nitrocellulose on the coated article.

However, Jones teaches a silicate (silicon monoxide) coated film of biaxially oriented polypropylene (column 8, lines 1-6) whereby the sealable topcoat is used for

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the purpose of providing a synergistic effect on initial barrier properties (column 4, lines 60-68) to gas and liquid (abstract). Jones teaches that a preferred sealable topcoat is nitrocellulose (column 5, lines 29-33). The silicate (silicon oxide) coatings are transparent flexible coatings in the glassy state (flexible glass, column 1, lines 10-20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have provided a topcoat of nitrocellulose, to the polysilicate coated coextruded polyolefin substrate of Hubbard in view of Adur and Krueger, as evidenced by Alger, in order to obtain synergistically improved barrier properties for the laminate, as taught by Jones.

(10) Response to Argument

B. Claims 10, 13-26

(i) (a) Appellant argues that Hubbard fails to teach or suggest a maleic anhydride modified polyolefin and a polyolefin coextruded to produce a polymeric substrate having a modified maleic anhydride surface and a polyolefin surface wherein said article is coated with a polysilicate. Appellant argues that Adur teaches adhesive thermoplastic polyolefin compositions such that a substrate is formed whereby the components are dispersed throughout, and thus fails to teach a coextruded polymeric substrate comprising a first outer surface of a maleic anhydride modified layer and a second outer surface of a polyolefin layer.

Appellant is respectfully apprised that Hubbard is the primary reference that teaches a coated polymeric article comprising (a) a polymeric substrate consisting of a

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first outer surface of a polymeric (primer) layer and a second outer surface of a selected polyolefin layer (polypropylene), and (b) a polysilicate coating on the primer layer.

Hubbard fails to teach that the first outer surface of the polymeric (primer) layer is the first outer surface of a maleic anhydride modified polyolefin layer.

Adur is the secondary reference that teaches that surfaces of polyolefins such as polypropylene require a proper primer to adhere to glass surfaces, and has a composition comprising a polyolefin, which is adherent to glass and polyolefins (column 1, lines 5-20). Adur provides commercially available polypropylene grafted with maleic anhydride as one example (column 4, lines 1-12). Glass is polysilicate, as evidenced by Alger, that teaches that silicate glasses are also known as polysilicates (silicate polymer section, pp 520-521). Thus Adur, as evidenced by Alger, teaches a second surface of a selected polyolefin (polypropylene) layer primed with the first surface of a maleic anhydride modified polyolefin (polypropylene) layer for the purpose of providing adherence to a polysilicate (glass) surface.

Both Adur and Hubbard address the common problem of providing suitable adherence between a polyolefin layer and a polysilicate layer. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used the maleic anhydride modified polyolefin layer of Adur as the first outer surface (primer) layer of Hubbard, in order to obtain a polysilicate coated polyolefin article with good adhesion of the polysilicate coating to the polyolefin substrate, as taught by Adur.

(b) Appellant argues that Hubbard is directed to primer technology whereas Adur is directed to adhesive technology, wherein an advantage of the instant invention is the adhesion of a barrier coating without the application of a primer layer, and that since the instant invention does not require a primer layer, the examiner's reliance on Hubbard is inappropriate.

Appellant is respectfully apprised that while the present claims do not require a primer layer, neither do they exclude one. Regarding the appropriateness of the combination of Hubbard and Adur, both Adur and Hubbard address the common problem of providing suitable adherence between a polyolefin layer and a polysilicate layer. Adur teaches that polyolefins have a non-polar, non-porous inert surface which does not adhere to glass, without proper priming or special treatment (column 1, lines 16-21), but that these priming and special treatments are costly and can cause detrimental effects to the finished product (column 2, lines 42-55). Adur's invention is directed to an adhesive thermoplastic elastomer (column 2, lines 64-65) which is tailor made to end use specifications and also exhibit exceptional wettability and bondability (TPE, column 2, lines 5-61), thus eliminating the need for priming and special treatments, and can take the place of the primer layer between the polysilicate layer and the polyolefin layer of Hubbard. Adur teaches that a commercially available thermoplastic adhesive is polypropylene grafted with maleic anhydride (column 4, lines 5-10). Alger is evidence that polysilicate is a form of glass.

(c) Appellant argues that Krueger does not support the instant rejection, because Krueger teaches an adhesive blend layer of polypropylene grafted maleic anhydride,

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whereas the instant invention is not drawn to a blend, and that while the first layer is polyolefin, the third layer of the coextruded substrate is nylon, and that it is not obvious to substitute the nylon layer with a polysilicate coating.

Appellant is respectfully apprised that Hubbard in view of Adur, as evidenced by Alger, teaches that the substrate laminate of polyolefin layer and maleic anhydride modified polyolefin layer, is coated with a polysilicate coating. Krueger is the tertiary reference that teaches that the substrate laminate of polyolefin layer and maleic anhydride modified polyolefin layer of Hubbard in view of Adur, as evidenced by Alger, can be coextruded in a one-step process, and that it is desirable to do so (column 1, lines 55-60).

C. Appellant's argument against Jones is based on Appellant's arguments against the valid combination of Hubbard in view of Adur, as evidenced by Alger, which have been addressed above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,




Sow-Fun Hon

Conferees:

Carol Chaney 

Harold Pyon 


HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

2/3/08